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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/659,354

09/11/2003

Gena Perlov

1023/13

5554

7590 06/27/2007  
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EXAMINER

JASTRZAB, KRISANNE MARIE

ART UNIT

PAPER NUMBER

1744

MAIL DATE

DELIVERY MODE

06/27/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/659,354

**Applicant(s)**

PERLOV ET AL.

**Examiner**

Krisanne Jastrzab

**Art Unit**

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 and 20-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 20-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-14 and 20-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bithell U.S. patent No. 4,348,357 in view of D'Ottone U.S. Pub. No. 2003/0133832 A1 and Jacob U.S. patent No. 5,302,343.

Bithell teaches plasma sterilization means and apparatus where an object is placed in a housing, a vacuum of less than one torr is drawn, a gas such as oxygen is introduced and an electrical discharge is generated in the chamber to create a gas plasma containing radicals. The system of Bithell is a pulsed system. The addition of the gas and generation of radicals causes the pressure in the chamber to rise. When that pressure reaches a predetermined point between 1 and 10 Torr, the gas flow is ceased and so is the electrical discharge if a temperature sensitive object is being treated. Bithell is silent as to the use of ozone mixed with water vapor as the gas supplied. See column 1, lines 40-45 and 52-60, column 2, line 10-20, column 3, lines 10-60, column 4, lines 5-35, column 5, lines 25-60, column 6, lines 45-68 and column 7, lines 1-5.

D'Ottone teaches use of ozone mixed with water vapor for the generation of hydroxyl (OH) free radicals for the sterilization of a contained object. Ozone is created and supplied by an ozone generator, the ozone gas is mixed with a water vapor with the water being supplied by a water reservoir, the mixture is delivered to a housing

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containing an object to be treated and free radicals are generated therefrom within the housing. See page 1, paragraphs 0008-0010, and page 2, paragraph 0011 and 0016.

Jacob clearly teaches the benefit of pressure pulses or cycles for controlled sterilization as well as an electrode configuration that creates radicals, but protects the object being treated. Jacob teaches a device for the generation of plasma, which includes a housing with a vacuum pump to evacuate the housing, and means to supply ions thereto have different polarities, as well as means to manipulate those ions for controlled production of radicals. See column 8, lines 55-68, column 9, lines 40-60, column 10, lines 22-62, column 11, lines 45-68, column 12, lines 10-35, column 13, lines 30-60 and column 14, lines 40-60.

It would have been well within the purview of one of ordinary skill in the art to employ the ozonizer of D'Ottone with water vapor supply as well as the electrode and pulse/cycle configuration of Jacob in the system of Bithell in order to optimize sterilization of all objects including temperature sensitive and lumened.

It is noted that all elements required by the dependent claims are addressed in the rejections above and pointed out by the column, line and paragraph recitations.

### ***Response to Arguments***

Applicant's arguments filed 4/15/2007 have been fully considered but they are not persuasive.

Applicant argues that Bithell and D'Ottone are not properly combinable because D'Ottone's system operates at notably higher pressures than Bithell's, however, the Examiner would disagree because D'Ottone clearly teaches the benefits of the use of

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ozone and water vapor in plasma formation which is not related to the pressure of the system being treated.

Applicant further argues that the addition of ozone and water vapor to the system of Bithell would cause an unacceptable rise in pressure, however the Examiner would disagree and turn to the teachings of Jacob also included in the rejection of the claims. Jacob clearly teaches the introduction of water vapor with gases for plasma formation in a sub-atmospheric system in order to achieve the enhanced sterilization realized by the inclusion of water vapor for hydroxyl formation. It is further held that the pulse system of Jacob accounts for the pressure increase in view of the presence of water vapor in the delivered gases.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krisanne Jastrzab whose telephone number is 571-272-1279. The examiner can normally be reached on Mon.-Thurs. 6:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on 571-272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Krisanne Jastrzab/  
Primary Examiner  
Art Unit 1744

June 23, 2007